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Alienation as a function of perceived disjunction between present behavior and goals.

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ALIENATION AS A FUNCTION OF PERCEIVED DISJUNCTION BETWEEN PRESENT BEHAVIOR AND GOALS

A Thesis Presented

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TABLE OF CONTENTS

ALIENATION AS A FUNCTION OF PERCEIVED DISJUNCTION BETWEEN PRESENT BEHAVIOR AND GOALS

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Alienation and such related concepts as anomie, self estrangement and inauthenticity have become targets of increasing interest during the past few years. Rooted in the early concerns of Marx and Durkheim about the effects of industrialization and the breakdown of traditional society on individuals, the notion of alienation has been applied to such divergent populations as juvenile delinquents (Short, 1964), alcoholics (Snyder, 1964), Blacks (Bullough, 1967), and students (Messer, 1969). Most commonly alienation has been conceived of as the result of a disruption in the relationship between an individual and a cultural or social system.

The alienation literature can be roughly divided into three categories: theoretical attempts to determine the societal conditions of alienation and its effects on individuals, empirical attempts to identify alienated individuals in natural settings, and laboratory studies of individuals identified as alienated. The present study will address itself to a fourth problem, i.e., the creation of alienation in a laboratory setting.

Most of the specifications of conditions which result

in alienation refer to rather complex sets of variables operating in society as a whole. For this experiment it was necessary to hypothesize conditions which, while retaining the flavor of more general specifications, could be manipulated in a laboratory. Thus it is proposed that alienation is a function of a perceived disjunction between present behavior and rewards, values, or goals. When alienation is considered in this way it may refer to a single short-term incident, a phase of the individual's life, or his entire life style. Note that under this hypothesis, feelings of alienation are independent of the reception of reinforcements. In theory, of two individuals who receive the same amount of reinforcement, one may be alienated and one nonalienated. The presence of alienation depends on the individual's perception of the relationship between his behaviors and their outcomes. This distinction is present in the popular usage of the terms "goals" and "reinforcements." An individual may passively receive reinforcements, but goals must be achieved.

The reasons for the disjunction between behavior and goals is not specified in this definition. For the individual involved, the disjunction itself and not its antecedent causes is proposed to be the important factor. However, many of the societal conditions which have been hypothesized to result in alienation could operate by resulting in this disjunction. Perhaps the most obvious is Marx's conception of the nonintrinsically rewarding work situation as the

primary factor in alienation. Marx saw the nature of the work situation as being the major determinate of alienation, which occurs when the worker does not receive personal satisfaction from his labors. The worker has no part in determining the nature of his work and so is powerless to achieve his potentialities through his labor (Cummings, 1967). Because each worker contributes only a fractional and stereotyped part of the final product, none feels a sense of achievement at its completion. His gains are all secondary, i.e., the needs he is able to satisfy are not those arising directly in the working situation. Thus the product of his labor is disjunctive with his goals and fails to express his values.

Merton (1957) considers an anomic condition as one in which the individual accepts the goals which society prescribes for him but lacks the means to achieve them. The actions which he does take are useless in his eyes because they are disjunctive with the goals he has accepted. The present hypothesis, however, differs from Merton's in that the perception of a connection between behavior and desired rewards rather than the reception of the rewards is postulated as the crucial factor.

What would be the expected outcome of this disjunction between behavior and goals? Most generally this disjunction would have aversive consequences on the individual such that he would seek to escape from the disjunctive situation. Such escape might be individual (as in Durkheim's suicidal

individuals (Durkheim, 1897)) or social. The formation of a counter-culture, such as that described by Cohen (1955) among juvenile delinquents or the student culture described by Jackson (?), may be seen as forms of social or group escape.

Such behavioral indices of alienation are usually difficult to obtain. More commonly the effects of alienating conditions are measured as they are reflected in the attitudes of the individual. Descriptions of the alienated or anomic individual and his attitudes are fairly numerous (for example see Srole, 1956; Keniston, 1960; Olsen, 1969; Dean, 1961).

In an analysis which is particularly relevant here, Seeman (1959) describes the attitudes of alienated individuals with regard to their expectations about goal achievement. The individual in an alienating situation may feel a sense of (1) powerlessness--inability to achieve goals; (2) meaningless--prediction of the outcome of his behavior is not possible; (3) normlessness--goals cannot be achieved without resorting to proscribed behaviors; (4) isolation--goals which society regards highly are actually worthless; (5) self estrangement--present behavior is dependent on rewards in the future.

Roughly speaking, most accounts of the attitudes of alienated individuals can be divided into two types: those attitudes whose referent is the alienating situation (usually society as a whole) and those whose referent is the

self. For our purposes when an individual is faced with a situation in which his actions are disjunctive with his goals he may attribute this lack of integration either to the situation or to himself.

So many specific attitudes toward the self and society have been suggested as typical of the alienated individual that he may be said to be characterized simply by a generally negative attitude toward himself and/or society. Four more specific characteristics of alienated individuals are also of interest here. Each of these may be reflected either in attitudes toward society and/or in attitudes toward the self. First, the alienated individual may see society as meaningless or normless or may feel that his own life is characterized by purposelessness. Second, the individual may feel that he is estranged from certain roles which he plays or that he is estranged from himself. Cummings (1967) describes role estrangement in graduate students which he says is characterized by deemphasis of the work required, an instrumental attitude toward the work, and a lack of identification with high status academic figures. Self estrangement is a more amorphous concept. It seems to involve an inability to conceive of the self as an integrated unit moving through time. Neither the past nor future seem to "make sense." There is little perceived connection between external events and internal reactions. Third, the alienated individual may see his environment as impersonal and himself as lonely. Finally, he sees himself as powerless and is unable to trust people

in the alienating situation. (See Table 1.)

Whether the negative feelings engendered in an individual by an alienating situation will be directed toward the situation or toward himself or both is dependent on a number of factors, including the pervasiveness of the alienating situation both in his present life and over time, the presence or absence of social supports in the environment, and individual proclivities. Regarding the latter, the response of the individual may be in part a function of what Rotter (1966) has called the individual's locus of control. This refers to the individual's habitual perception of events as being either a consequence of his own actions (internal control) or as unrelated to them (external control). Probably the individual whose general perception of events in his life is one of external control would be more likely to interpret an alienating experience as the result of the situation. There would also appear to be a long-term relationship between alienation and locus of control, but its nature is unclear at this point.

In summary, this paper has attempted to define alienation in such a way that it can be simulated in the laboratory. Toward this end, it was suggested that an individual may be considered to be alienated when his present behaviors are perceived by him as disjunctive with his values and goals. The individual is hypothesized to respond to alienating situations by attempting either an individual or a social escape from them. The aversive quality of the

TABLE 1

Attitudes of Alienation

Self	Environment
1. General negative feelings directed toward self	1. General negative feelings directed toward environment
2. Guidelessness (Olsen, 1969); purposelessness (Dean, 1961)	2. Normlessness (Seeman, 1959); meaninglessness (Seeman, 1959)
3. Self estrangement (Seeman, 1959)	3. Role estrangement (Olsen, 1969); deemphasis of importance of alienating situation (Cummings, 1967); lack of identification with figures in alienating situation (Cummings, 1967)
4. Loneliness (Dean, 1961)	4. Impersonality (Dean, 1969)
5. Powerlessness (Seeman, 1959)	5. Distrust (Davids, 1955)

alienating situation is hypothesized to result in negative attitudes toward the situation and/or the self. Whether such negative attitudes are directed toward the situation or the self is dependent on a number of factors, including the pervasiveness of the situation, the presence of social supports, and the individual's proclivity to interpret events as dependent on his own actions (locus of control).

In the present study two groups of Ss were presented with a series of relatively difficult and ambiguous tasks. The "nonalienated" group was reinforced for correct answers. Members of the "alienated" group were paired with the nonalienated group members and received yoked reinforcements. After completion of the test each S filled out a questionnaire concerning his attitude toward the test and his performance on it. These questionnaires served as measures of situational and personal alienation, respectively. The items are divisible into three groups by specificity. One third of the items are specific to the experience the S had just had, one third refer more generally to similar situations, and one third to the S's general life style. (See Appendix 1.)

The following results were predicted:

1. The major prediction of the study was that the alienated group, despite having received equal reinforcements, would report greater dissatisfaction with both themselves and with the test situation than would the nonalienated group (A main effect).

2. The differences between the alienated and non-alienated groups would be greater on more specific items (A x D interaction).

Method

Instruments

The test used to induce alienation was composed of 17 moderately difficult items drawn from Raven's Advanced Progressive Matrices--Set 2 (1965). The test used to measure the degree of alienation was drawn up in the following manner: Six items were drawn from each of the aspects of alienation listed in Appendix 1. Of these, three were designed to tap attitudes toward the testing situation or environment and three toward the self. Finally, one of each of these triplets is specific to the experience the Ss have just undergone, one refers to related situations, and one to general life style. The latter were drawn in part from three scales (Srole, 1956; McClosky & Schaar, 1965; Merwin, 1970).

Subjects and Procedure

Fifty-two undergraduates from the University of Massachusetts enrolled in the introductory psychology course served as Ss. The Ss were divided into those run under alienating (experimental) and nonalienating (control) conditions. Each S in the experimental condition was matched with a S in the control condition. This matching was based on sex and ability at the Matrices as demonstrated on a three-item pretest. The yoking procedure described below

necessitated that the control subject in each pair be run first. Thus after the pretest Ss were assigned to the experimental condition if a matched control S had previously been run; if not, they were assigned to the control condition.

Ss were run individually. Each S was told that he was going to be taking a test designed to assess the capacity for abstraction of college students. Ss in the nonalienated group were administered a test composed of items from Raven's Progressive Matrices Test. After each item the S was told whether his answer was correct or incorrect. After receiving this information, the S was asked his reasons for selecting his answer. After completion of testing Ss filled out the alienation questionnaire. A further measure of the degree of aversiveness of the experimental situation was obtained by including at the end of the questionnaire a request for Ss to volunteer to return for a similar testing session.

Ss in the alienation condition were run in the same way as in the nonalienation condition, except that each was paired with one S in the control condition. The number of items which each of these Ss was told were correct was dependent on the responses of the nonalienated S. To insure that the distribution of correct and incorrect answers was approximately the same for experimental and control Ss, no incorrect response for experimental Ss was moved more than one item to either side of the item on which it occurred for the control S. For example, if the control S was incorrect on

Item 2, the experimental S matched with him would be told "incorrect" on Item 1, 2, or 3. Within these restrictions the "correct-incorrect" feedback was manipulated in such a way as not to match the S's actual performance as frequently as possible.

Results

Raven Advanced Progressive Matrices

The mean score for all Ss on the 17-item subset of the Matrices administered was 8.11. Scores for experimental and control Ss differed very little (7.88 and 8.34, respectively). Females generally performed somewhat better than males (8.96, 7.27); this difference was significant at less than .10 probability. (See Table 2.)

A dissonance score was computed for experimental Ss which consisted of the number of items on which they received disjunctive feedback. Overall the mean number of disjunctive items per S was 10.08; males averaged 9.92 and females 10.23. Each S's dissonance score was further divided into those items on which he answered correctly and was told that he was incorrect (negative dissonance) and those items on which he was incorrect but was told "correct" (positive dissonance). For all Ss the negative dissonance score was 4.77, and for positive dissonance the score was 5.31. Female experimental Ss averaged 4.15 negatively dissonant responses and 6.08 positively dissonant responses. The mean number of negatively and positively dissonant items was 5.38 and 4.53, respectively, for males.

TABLE 2

Raven Progressive Matrices Scores

Group	Mean	S.D.
Total score		
All subjects	8.11	3.19
Control subjects	8.34	3.33
Experimental subjects	7.88	3.09
Females	8.96	3.08
Males	7.27	3.07
Total Dissonance Scores		
All experimental subjects	10.08	2.00
Male experimental subjects	9.92	1.66
Female experimental subjects	10.23	2.35
Negative Dissonance Scores		
All experimental subjects	4.77	2.21
Male experimental subjects	5.38	2.36
Female experimental subjects	4.15	1.95
Positive Dissonance Scores		
All experimental subjects	5.31	2.78
Male experimental subjects	4.54	2.25
Female experimental subjects	6.08	3.12

The Alienation Scale

A low score on the alienation scale indicates greater alienation. The mean score for all Ss was 142.90 with an S.D. of 20.74. The mean uncorrected correlation between items on the questionnaire was .37. Correlations of items with the entire questionnaire ranged from -.05 to .72. (See Table 3.) The mean correlation of areas with each other was .42 with a range from .55 to .31. When the scale was divided on the basis of generality of the items, the mean correlation was .30. Items which referred specifically to the testing situation correlated .63 with items referring to similar situations (moderate items) but only .10 with items concerning general issues. The correlation between moderate and general items was .16. Finally, the correlation between items referring to the self and those referring to the situation was .36. (See Table 4.)

Alienation Manipulation

To test the major hypothesis of the study an analysis of variance was performed to compare scores of experimental and control Ss on the alienation scale. The mean score for experimental Ss was 139.38; the mean for control Ss was 146.64 (the lower the score, the more alienated the S). The S.D. for the entire sample was 20.97. An analysis of variance was performed with experimental condition and sex as between-S variables and area, direction, and generality of items as within-S variables. (See Table 5.) The only significant factor in the analysis was a third-order inter-

TABLE 3

Alienation Scale Item Means, S.D., t Tests, and Correlations with Total Scale

Item Number	Experimental Group Mean	Experimental Group S.D.	Control Group Mean	Control Group S.D.	t Value	Correlation with Total Score
1	5.35	1.38	4.65	1.90	1.50	-.05
2	5.00	2.06	5.19	1.96	0.34	.64
3	3.77	1.94	4.11	1.84	0.66	.57
4	5.30	2.00	5.23	1.80	0.15	.32
5	5.07	2.04	5.73	1.78	1.23	.39
6	4.08	1.85	4.08	2.00	0.00	.12
7	5.85	2.13	5.54	1.68	1.30	.39
8	5.46	2.12	5.65	1.52	0.38	.48
9	4.15	2.41	4.69	2.09	0.86	.29
10	3.35	1.90	3.96	2.12	1.10	.23
11	4.19	2.35	4.92	2.26	1.42	.42
12	5.31	2.07	5.85	1.32	1.12	.29
13	6.08	1.81	6.04	1.75	0.07	.36
14	4.42	2.19	5.08	1.92	1.14	.56
15	5.08	1.74	5.08	1.65	0.00	.52
16	4.35	1.65	5.08	2.17	1.37	.41
17	4.27	2.16	4.42	1.45	0.30	.44
18	4.19	2.33	5.31	1.93	1.89	.52
19	3.38	3.38	4.42	4.42	1.76	.38
20	3.65	1.96	3.42	2.10	0.41	.72
21	5.35	1.70	5.42	1.39	0.18	.35

TABLE 3 (cont.)

22	4.58	2.16	4.69	1.89	0.20	.46
23	4.57	2.26	4.88	1.84	0.54	-.01
24	5.42	1.70	4.65	1.74	1.61	.31
25	4.65	1.76	4.57	1.63	0.16	.42
26	4.85	1.91	4.88	1.90	0.07	.36
27	5.27	1.48	5.31	1.72	1.75	.08
28	4.08	2.13	4.65	1.96	1.74	.39
29	4.46	1.79	4.23	1.70	1.75	.15
30	5.03	2.12	4.69	2.09	2.05*	.43

* $p < .05$.

TABLE 4

Correlation Matrix: Alienation Questionnaire*

	Total Score	Area 1	Area 2	Area 3	Area 4	Area 5	Specific	Moderate	General	Self	Situational
Total score	1.00										
Area 1	.77*	1.00									
Area 2	.75*	.55	1.00								
Area 3	.75*	.55	1.00								
Area 4	.72*	.47	.45	.40	1.00						
Area 5	.65*	.34	.39	.35	.31	1.00					
Specific	.81*	.60*	.68*	.63*	.56*	.47*	1.00				
Moderate	.80*	.57*	.62*	.61*	.54*	.59*	.63	1.00			
General	.57*	.52*	.33*	.40*	.48*	.38*	.10	.16	1.00		
Self	.79*	.66*	.67*	.65*	.62*	.29*	.69*	.58*	.45*	1.00	
Situational	.86*	.62*	.58*	.60*	.58*	.75*	.65*	.73*	.49*	.36	1.00

* Correlations not corrected for item overlap.

TABLE 5

Analysis of Variance

Source	df	MS	F
Alienation Condition (A)	1	22.90	1.54
Sex (B)	1	6.28	-
Self vs. Situational Items (C)	1	14.62	N.I.
Generality of Items (D)	2	6.94	N.I.
Area of Items (E)	4	31.16	N.I.
A x B	1	18.74	1.26
A x E	4	1.18	-
B x E	4	4.24	1.24
A x D	2	2.15	-
B x D	2	9.01	1.30
E x D	8	15.06	N.I.
A x C	1	0.11	-
B x C	1	0.11	-
E x C	4	8.21	N.I.
D x C	2	45.98	N.I.
A x B x E	4	1.08	-
A x B x D	2	1.02	-
A x E x D	8	3.15	1.19
B x E x D	8	4.72	1.78
A x B x C	1	2.08	-
A x E x C	4	4.23	-
B x E x C	4	2.30	-
A x D x C	2	5.70	1.46

TABLE 5 (cont.)

B x D x C	2	5.51	1.58
E x D x C	8	16.37	N.I.
A x B x E x D	8	5.83	2.21*
A x B x E x C	4	5.98	2.14
A x B x D x C	2	1.18	-
A x E x D x C	8	2.32	-
B x E x D x C	8	2.73	-
A x B x E x D x C	8	3.35	1.23

* $p < .05$.

action involving experimental condition, sex, degree of generality of items, and area covered by items. The complexity of this interaction, the relatively small amount of variance for which it accounts, and the fact that each cell in the interaction is composed of only two items makes questionable the value of its interpretation. Reference to Table 6 indicates that four cells appear to be the major contributors to this interaction. Females in the experimental group responded in a more alienated direction to general items in Areas 2 and 5 than did females in the control group. This trend was reversed for males. On Area 4 items experimental females were more alienated on specific items than were controls, but they were less alienated on general items. Again the trend was reversed for males.

T tests performed on individual items showed that only Item 30 differentiated significantly between experimental and control Ss. When asked to volunteer for a second no-credit session, 7 of 26 experimental Ss agreed, as compared to 14 of the 26 control Ss. A χ^2 analysis indicated that the difference between the groups was significant at the .05 level.

The correlation for control Ss between the number of items correct on the R.P.M. and their score on the alienation questionnaire was .56 ($p < .05$ that $r = 0$). A positive correlation indicates that Ss with high scores on the R.P.M. were less alienated as measured by the questionnaire. When the alienation scale was divided into items dealing with

TABLE 6

Experimental Condition x Sex x Degree of Generality of Items x Area Covered by Item Interaction: Cell Deviations and Means

Experimental Group

	Male			Female		
	Specific	Moderate	General	Specific	Moderate	General
Area 1	(-.12) 5.45	(.17) 4.96	(-.05) 4.04	(.12) 5.88	(-.17) 4.08	(.05) 4.04
Area 2	(-.08) 4.62	(-.15) 4.69	(.23) 4.62	(.08) 4.15	(.15) 4.65	(-.23) 3.88
Area 3	(.10) 5.08	(-.02) 4.42	(-.06) 5.23	(-.10) 5.23	(.03) 5.08	(.06) 5.38
Area 4	(.26) 4.23	(.10) 4.88	(-.36) 3.92	(-.26) 3.27	(-.10) 3.73	(.36) 5.23
Area 5	(-.16) 4.36	(-.09) 4.92	(.25) 4.85	(.16) 4.85	(.09) 4.85	(-.25) 4.69

Control Group

Area 1	(.12) 5.38	(-.17) 5.27	(.05) 4.38	(-.12) 5.31	(.17) 5.30	(-.05) 4.62
Area 2	(.08) 5.04	(.15) 4.65	(-.23) 3.62	(-.08) 4.81	(-.15) 4.73	(.23) 4.69
Area 3	(-.10) 5.23	(.03) 4.26	(.06) 5.15	(.10) 5.96	(-.03) 5.54	(-.06) 5.58
Area 4	(-.26) 4.04	(-.10) 4.81	(.36) 4.42	(.26) 4.62	(.10) 4.69	(-.36) 5.12
Area 5	(.16) 4.88	(.09) 5.19	(-.25) 4.03	(-.16) 4.73	(-.09) 4.96	(.25) 5.27

the specific testing experience, with similar situations, and with general issues, the correlations were .65, .13, and .36, respectively. (See Table 7.)

For the experimental group the correlation of actual R.P.M. and alienation scores was .17. Specific, moderate, and general items correlated with actual R.P.M. scores at .23, .13, and .00, respectively. The correlations for the total alienation scale, specific, moderate, and general items, and scores based on the number of items on which the Ss were told they were correct (spoken score) were -.16, .16, -.17, and -.35.

Within the experimental group correlations with dissonance measures are slightly higher. The correlations for the total alienation scale, specific, moderate, and general items, and total dissonance scores are, respectively, -.30, -.23, -.39, and -.05. The same measures correlated with positive dissonance are -.30, -.12, -.32, and -.22. Respective correlations with negative dissonance are .17, -.06, .06, and .24.

When experimental Ss were divided into two groups on the basis of their total dissonance scores, then mean alienation score for high dissonance Ss was 146.38. The mean for low dissonance Ss was 132.38 ($p < .05$). When Ss were divided on the basis of positive dissonance, the mean for low positive dissonance Ss was 143.38 as compared with a mean for high positive dissonance Ss of 135.38 (difference not significant). When Ss were divided on the basis of negative

TABLE 7

Correlation Matrix: R.P.M. Scores and Alienation Scale

Raven Matrices Scores

Control Group		Experimental Group				
	R.P.M.	Spoken Score	Actual Score	Total Diss.	Neg. Diss.	Pos. Diss.
Spoken Score		1.00				
Actual Score		-.02	1.00			
Total Diss.		.22	.20	1.00		
Negative Diss.		-.67	.62	.13	1.00	
Positive Diss.		.70	-.64	.61	-.70	1.00
Total Score	.56	-.22	-.23	-.30	.11	-.30
Area 1	.43	-.20	.06	-.31	.05	-.26
Area 2	.50	-.03	.05	-.20	-.11	-.11
Area 3	.44	.16	.05	-.05	-.09	.04
Area 4	.42	-.53	.34	-.30	.50	-.62
Area 5	.28	-.02	.11	-.25	-.02	-.16
Specific	.65	.16	.23	-.23	-.06	-.12
Moderate	.13	-.17	.13	-.37	.06	-.32
General	.34	-.35	.00	-.05	.24	-.22
Self	.66	-.06	-.01	-.15	-.03	-.08
Situational	.34	-.17	.24	-.29	.17	-.34

TABLE 7 (cont.)

Alienation Scale Scores

Control Group		Experimental Group										
	R.P.M.	Total Score	Area 1	Area 2	Area 3	Area 4	Area 5	Specific	Moderate	General	Self	Situational
Total Score	.56	1.00										
Area 1	.43	.85	1.00									
Area 2	.50	.69	.56	1.00								
Area 3	.44	.75	.58	.32	1.00							
Area 4	.42	.62	.45	.27	.25	1.00						
Area 5	.28	.68	.45	.41	.38	.27	1.00					
Specific	.65	.83	.57	.72	.73	.35	.59	1.00				
Moderate	.13	.82	.64	.67	.57	.51	.58	.71	1.00			
General	.34	.52	.63	.10	.32	.49	.32	.08	.08	1.00		
Self	.66	.67	.62	.61	.53	.47	.17	.57	.57	.32	1.00	
Situational	.34	.84	.67	.46	.61	.48	.78	.69	.68	.46	.16	1.00

dissonance, the means for both groups were 139.38.

The alienation scale scores for all Ss were factor analyzed. Because of the relatively small number of Ss involved, the results of the factor analysis, in themselves, are of questionable value. However, four factors emerged from the analysis which seem intuitively consistent. The first of these factors seems to consist of a personal disorientation and anxiety in testing situations. Items with a loading of over .45 on this factor were:

> I felt confused during the test.
>
> Taking tests like the one in this experiment usually makes me feel unhappy.
>
> Even if it is important for me to do well in a testing situation, I find it difficult to concentrate on it.
>
> Other students seem less upset than I am about taking tests and exams.

A second factor which emerged seems to involve a general devaluation of the experiment and similar situations. Items loading over .45 on this factor were:

> Problems such as the ones in the test I just completed are probably highly related to the kind of abstract reasoning required of college students. (reverse scored)
>
> I found the test interesting to take. (reverse scored)
>
> Experiments like this one are probably important to the advancement of knowledge in psychology. (reverse scored)
>
> There is little use in talking to college teachers and administrators because often they really aren't interested in the problems of the average student.

A third seems to be concerned with suspicion and hostility toward the testing situation. Following are the three items with the heaviest loadings on this factor:

> In most psychology experiments the subjects are deceived in some way.
>
> I think the real purpose of this experiment is not what I was told at the onset.
>
> I think that no course (e.g., Psychology 101) should require students to participate in experiments.

The last factor to be considered seems to be related to Area 4--loneliness and impersonality. The three items with loadings of more than .40 all came from this area:

> I would have liked doing the type of problems in this test better if I could have worked with a partner on them.
>
> I feel that my particular abilities were not reflected in this test.
>
> Other students seem to be less upset than I am about taking tests and exams.

For the control group the R.P.M. score correlated with Factor 1 (test disorientation and anxiety) .44, with Factor 2 (test devaluation) .28, with Factor 3 (suspicion) -.03, and with Factor 4 (loneliness and impersonality) .38. In the experimental group comparable correlations with actual R.P.M. scores were .25, -.19, .26, and .39. The correlations for this group with spoken scores were -.31, .28, -.19, and -.40; correlations with total dissonance scores -.30, -.06, .39, and -.45; with positive dissonance scores -.44, .14, -.38, and -.63; with negative dissonance scores .29, -.24, .12, and .40. A correlation greater than .38 is different from 0

at a $p < .05$.

Because the lack of evidence for the validity of the areas built into the alienation scale makes interpretation of the relationship between these areas and dissonance scores difficult, factor scores were employed. Factor scores were obtained by summing the scores for each item with a loading of +.30 or greater on a particular factor. When experimental Ss are divided into high and low groups on the basis of their total dissonance scores, high dissonance Ss have a mean of 46.38 on those items which have a loading of more than .30 on Factor 1. Low dissonance Ss have a mean of 39.23. The difference between the means is significant at the .05 level. That this difference is due in large part to the contribution of positive dissonance can be seen by a comparison of groups divided on the amount of positive dissonance which they received. The group receiving a high amount of positive dissonance had a mean of 39.54; the low dissonance group had a mean of 46.08 (difference is significant at .10 level). Conversely, negative dissonance had little direct effect on scores. The mean alienation score for high negative dissonance Ss was 44.84; the mean for low negative dissonance Ss was 44.84 (this reversal does not approach significance). (See Table 8.)

Consideration of the distribution of scores of the items with loadings of over .30 on Factor 2 (general devaluation of the test) shows no significant differences between high and low groups. The means for high and low total

TABLE 8

t Tests on Alienation Scale Items Drawn from Factors+

	Factor #	Items included in Factor*	Mean of High Group	Mean of Low Group	*t* Value
Total Dissonance	1	2,3,5,7,8, 9,15,21,22	46.38	39.23	1.94*
Positive Dissonance	1	"	46.07	39.53	1.75
Negative Dissonance	1	"	40.76	44.85	1.05
Total Dissonance	2	2,10,14,15, 16,18,26,27	41.69	38.92	.72
Positive Dissonance	2	"	39.69	40.92	.32
Negative Dissonance	2	"	42.23	38.38	1.02
Total Dissonance	3	4,20,26,28	19.84	14.23	2.66**
Positive Dissonance	3	"	17.46	16.62	.35
Negative Dissonance	3	"	17.23	16.85	.38
Total Dissonance	4	19,20,21,22	17.69	14.46	1.48
Positive Dissonance	4	"	18.46	13.69	2.31*
Negative Dissonance	4	"	14.61	17.53	1.33

+ The score for each item which had a loading of +.30 or greater on a factor was included.

* $p < .05$.

** $p < .01$.

dissonance Ss are 38.92 and 41.69, respectively. When Ss are divided on the basis of positive dissonance scores, high dissonance Ss received a mean of 40.92 on the alienation scale, low dissonance Ss a mean of 39.69. For high and low negative dissonance Ss comparable means were 38.38 and 42.23.

The means for high and low total dissonance groups on the items loading over .30 on Factor 3 (suspicion and hostility toward experimental situation) were 14.23 and 19.85, respectively ($t = 2.66$, $p < .01$). Means for high and low positive dissonance groups were 16.62 and 17.46. Corresponding means for negative dissonance groups were 16.85 and 17.23.

The means for the dissonance groups of items loaded on Factor 4 (loneliness and impersonality in testing situations) were high total dissonance 14.46, low total dissonance 17.69; high positive dissonance 13.69, low positive dissonance 18.46; high negative dissonance 17.54, low negative dissonance 14.62. Only the differences between the groups divided on the basis of amount of positive dissonance were significant ($p < .03$).

Finally, three items seem to be of particular interest because of their content. The first item on the test was the only one which was concerned with the S's evaluation of his performance on the test. This item asked the S to express his degree of agreement with the statement "I think that I did at least as well on this test as most of my friends would have done." Over all Ss the correlation of

this item with the scale as a whole was -.05. Correlation with R.P.M. score in the control group was .36. In the experimental group it correlated with the actual score -.17, and with the spoken score .59. Differences on this item between the experimental and control groups were insignificant (control mean = 4.65, experimental mean = 5.34). When experimental Ss were divided on the basis of total dissonance, the means for high and low Ss were quite close (5.15 and 5.54, respectively). However, when Ss were divided on the basis of positive dissonance scores, the mean for high Ss was 6.07, and the mean for low Ss was 4.61 ($p < .01$).

The other two items of interest are those referring to the credibility of the experimental situation: "In most psychology experiments the Ss are deceived in some way" and "I think the real purpose of this experiment is not what I was told at the onset." When the control and experimental groups are considered, the means for the first item were virtually identical (4.88 and 4.84). Nor were the means for the second item significantly different (control = 4.65, experimental = 4.08). Neither of the items significantly differentiated dissonance groups within the experimental group.

Discussion

The significant difference between experimental and control Ss on willingness to volunteer for retesting seems to indicate that reception of disjunctive feedback was more aversive than the reception of contingent feedback, even

when the amounts of positive and negative feedback were held constant. The major hypothesis of the study, however--that Ss in the experimental condition would be more alienated as measured by the questionnaire--was not supported. Nor was there support for the hypothesis that items with a referent specific to the testing situation would be more affected by dissonance than the moderate or more general items.

An alternate hypothesis which seemed reasonable at this juncture was that the contingent and noncontingent feedback situations were experienced by Ss as being the same. That is, because of the high difficulty level of the test, both groups of Ss experienced equal confusion regarding the feedback. One line of evidence which seems to refute this hypothesis is the level of correlation between performance on the Matrices and scores on the alienation questionnaire in the control group as compared to the experimental group. Most of this correlation for control Ss was due to questions which dealt specifically with the test and with the S's feelings during the session. Whether this effect was the result of the level of experimenter-initiated reinforcement, self reinforcement, or pre-experimental subject disposition cannot be absolutely determined. The concentration of the correlation in the test-specific items, however, would tend to support the hypothesis that the correlation was related to either experimenter-initiated reinforcement or to self reinforcement.

This relationship between performance on the R.P.M.

and level of alienation on the questionnaire breaks down for experimental Ss. If the feedback had seemed arbitrary for both groups, a similar relationship could be expected to exist between the number of times the S was told "correct" and his alienation score. In fact, the correlation between the feedback and the total questionnaire was negative and insignificant. Nor does the S seem to be responding to his actual score on the Matrices. The relationship to items of different levels of generality was significant only in the general area which correlated negatively with the Matrices scores. This correlation for control Ss was positive and significant.

The differences between the experimental and control groups which appear in volunteer rates and in the correlation between the Matrices scores and the alienation scale lead to the conclusion that the experimental and control conditions were subjectively different. Whatever the basis of this difference, however, it was not reflected in differences between the groups in the alienation questionnaire. Several interpretations of these findings seem possible. Given the ambivalence of the testing situation, Ss may have essentially disregarded it and responded to the scale in a manner which reflected pretest disposition. A second possibility is that because of previous experience or dispositions the responses of the Ss to the testing situation differed. A third interpretation is that two or more variables (such as positive and negative dissonance) operated in the experimental

situation in such a way as to negate any overall effect.

Consideration of the interpretations suggested above must be highly speculative because this experiment was designed to test differences between experimental and control groups, not intragroup variability. Variables within the experimental group may be both confounded with each other and not randomly assigned to Ss. An example of variables being confounded with each other occurs in the case of the positive and negative dissonance scores and the spoken and actual scores. The higher a S's real score on the R.P.M., the greater the probability that he was matched with a S receiving a lower score than himself. Thus, there is a greater likelihood that he received a large amount of negative dissonance and a small amount of positive dissonance. The correlation between actual score and positive dissonance score for all Ss in the experimental condition was -.64; the same correlation for negative dissonance was .62. In this case it is not possible to determine if correlations between these measures and alienation are due to type of dissonance, actual score, or both.

The second type of confounding is due to the nonrandom assignment of variables to Ss. For example, ability on the R.P.M. (and to a lesser extent, therefore, positive and negative dissonance scores) earned by the S may be related to other personality characteristics, particularly intelligence. The personality variables may, themselves, be related to degree of alienation. The nature of the relation-

ship between ability and actual score on the Matrices is, itself, unclear because the time allotted Ss per item was determined on the basis of a three-item pretest of the R.P.M. Thus the Ss who scored highest in the pretest received the least amount of time per item, increasing the difficulty of the test for them and presumably lowering their scores. Because of these confounding factors any attempt to interpret variables within the experimental group must be speculative and directed toward suggesting further research.

The most obvious factors which could be operating within the experimental group to differentiate Ss would seem to be the various dissonance scores. Total dissonance is, of course, also the factor differentiating control and experimental Ss. In both the case of the control vs. experimental and high vs. low dissonance within the experimental group, the higher dissonance group has a lower mean on the alienation scale, indicating a greater degree of alienation than in the case of the lower dissonance Ss. That this difference falls short of significance in the overall experimental analysis despite the greater N of the total group may be due to the high amount of "felt" dissonance experienced by most Ss. The difficulty of the test was such that control Ss as well as experimental Ss appeared to experience frequent dissonance in the sense that their expectations as to feedback were often unmet.

The most surprising finding, in considering dissonance scores, however, was the relation between positive and negative dissonance and alienation scores. Intuitively one

might well suspect that negative dissonance (being told that one is incorrect when one is actually correct) would be more highly correlated with alienation than would positive dissonance. A glance at the correlations of the entire questionnaire as well as at individual items indicates that this is not generally the case. The relationship between positive dissonance and alienation seems to be greater in many cases than that between negative dissonance and alienation. Before looking more specifically at the types of items which were influenced by the various kinds of dissonance, two problems should be kept in mind. First, as discussed above, positive and negative variance are highly correlated with the spoken and actual scores of Ss. In general, however, the correlations discussed below are greater for the dissonance scores than for either the spoken or actual score. A second problem is that positive and negative dissonance scores are negatively correlated with each other (-.70). Thus of the 13 Ss in the low negative dissonance group, 11 are in the high positive dissonance group. This crossover means that it is not always possible to determine whether a given effect is due to high positive dissonance or to low negative dissonance, or to both.

The only item on which a t test revealed that Ss who received large amounts of positive dissonance scored in a significantly less negative fashion was the statement "I think that I did at least as well on this test as most of my friends would have done." Ss who received large amounts of

negative dissonance were more likely to disagree with this than were Ss receiving low amounts of negative dissonance. Finally this item was significantly correlated with spoken score, although not with actual score. Of all the items referring specifically to this testing situation and those which referred to similar situations, this item had the lowest correlation with the scale as a whole. Ss apparently based their own evaluation of their performance on the feedback given them by the experimenter, but this type of evaluation had little effect on their responses to other items.

Factors 1 (personal disorientation and anxiety in testing situations) and 4 (loneliness and impersonality) appear to be related to the amount of positive dissonance received by a S. The more frequently a S was told that he was correct on items on which he was actually incorrect the more likely he was to display alienation on these factors. Factor 2 (general devaluation of the testing situation) was not related significantly to any of the dissonance measures. Factor 3 (suspicion toward testing situation) was related to the amount of total dissonance.

These findings suggest the possibility that the effects of total, positive, and negative dissonance may be different over several dimensions of what had been loosely defined here as alienation. The individual who receives more positive reinforcement than he expects feels disoriented, anxious, and isolated, but he does not denigrate the testing situation. In fact, he believes that he must have, however

inadvertently, performed quite well. A more sophisticated experimental design which allows the complete separation of positive and negative dissonance from other personality factors is needed to confirm these findings.

As noted at the onset of this paper, alienation has most commonly been conceived of as the result of a disjunction in the relationship between an individual and a social system. This disjunction takes the form of conflict between society and the individual. Society makes demands on the individual which either conflict with each other (Jackson, 1965), are impossible of achievement (Merton, 1957), or run counter to personal needs of the individual (Marx, in Fromm, 1957). At the individual level, alienation may be said to consist of attempts to partially or completely reject one or the other side of this conflict. When this conflict is severe, the individual must either reject the values of his society or in some way reject or mislabel his feelings about the situation.

This experiment attempted to create an analogue of this basic conflict. Control Ss were exposed to a situation in which the conflict was minimized between the rewards intrinsic to successful problem solving and externally introduced experimenter reinforcement. For experimental Ss this conflict was maximized by making experimenter reinforcement disjunctive with actual success at problem solving.

Two sets of problems were inherent in the use of this laboratory situation as an analogue of the kind of alienation which occurs in "natural" settings. The first of these, the

difficulty of interpreting findings within the experimental group, has been previously discussed. The results of this study suggest the importance in future work of being able to separate the results of positive and negative dissonance both from the results of actual success rate on the task and from pre-experimental S dispositions. By randomly assigning experimental Ss to levels of positive and negative dissonance, this cause of confounding could be eliminated.

A second set of issues arises from a consideration of the dynamics of the experimental situation. A Mertonian model would suggest that alienation as a personality trait is a function of the acceptance by an individual of certain goals taught him by society which he lacks the means to achieve. Failure to meet these goals is followed by a rejection of prevailing society and/or a feeling of personal worthlessness. In comparison a Marxian analysis would indicate that certain working situations are intrinsically alienating regardless of the extrinsic goals achieved. Clearly the experimental situation employed here was not totally analogous to either of these models. Nevertheless certain parallels do exist. Performing successfully on a test of abstract reasoning power, with the implication of a high level of ability in this area, may be considered, following Merton's model, a culturally induced goal for college students. Informal observation during and subsequent to the task gave evidence of a fairly high level of concern about performance by Ss, particularly males. In the control group high task scores (and conse-

quently a high level of positive feedback) was related both to high evaluation of success on the test (as measured by Item 1) and to a low degree of alienation (as measured by the scale as a whole). Yet there was no appreciable correlation between this evaluation and scores on the remainder of the scale. Evaluation of success of performance on the test in the experimental group was related to the number of times Ss were told that they were correct and to positive dissonance, but neither of these measures was related to total alienation scores.

These tentative findings, as well as the negative relationship between positive dissonance and alienation, would not seem to support Merton's thesis that alienation is the nonreception of desired ends.

In the present experiment Ss were given no indication of the success of their performance relative to any external standards. Further information about the relationship between evaluation of performance and feelings of alienation would be gained by randomly assigning Ss to "above average," "average," and "below average" conditions.

A Marxian model of alienation would suggest that the worker is alienated when forced into doing unsatisfying labor by his need for nonrelated compensations. The emphasis in this conception is on the alienating nature of the work rather than on the conflict between reinforcements intrinsic and extrinsic to the working situation. A refinement of this experiment which might bring it closer to this model is the

introduction of a second group of Ss who perform under similar conditions a monotonous and repetitious task designed to fit a Marxian definition of alienating labor. Inclusion of additional control groups who would receive no feedback about their performance would serve to further clarify the role of conflict between intrinsic and extrinsic rewards in alienation.

Summary

Alienation has generally been conceived of as the result of a disjunction in the relationship between an individual and a social system. The present study attempted to produce an analogue of this relationship in the laboratory. Toward this end, an individual was hypothesized to be alienated when his present behaviors were perceived by him as disjunctive with his values and goals.

To create this type of "laboratory alienation," two groups of 26 student subjects were presented with a series of difficult items from a test purported to measure abstract reasoning power. The "nonalienated" group was told "correct" after correct answers and "incorrect" after wrong answers. Members of the "alienated" group were paired with nonalienated group members and received yoked feedback. After feedback on each item Ss were asked to explain their choice of answers. Alienation was measured by a questionnaire which was designed to reflect dimensions of alienation frequently mentioned in the literature.

A significant correlation between successful performance

on the task and a low degree of alienation as measured by the questionnaire was found to exist when feedback and actual performance were consonant (control group). The relationship between dissonance and alienation was not clear cut. The major hypothesis of the study, namely that experimental Ss who received noncontingent feedback would be more alienated as measured by the scale than would control Ss who received contingent feedback, was not supported. Significantly more control Ss than experimental Ss volunteered to return for a second testing, providing some support for the hypothesis that dissonance was aversive if not specifically alienating. An intraexperimental group comparison between Ss who received high and low amounts of dissonant feedback also showed a trend in the predicted direction. The effects of positive dissonance (S told that he was correct when he was incorrect) and negative dissonance (S told that he was incorrect when he was correct) seemed to be somewhat different. High amounts of positive dissonance resulted in a high evaluation of one's performance on the task but also seemed to increase disorientation, confusion, and feelings of isolation.

Caution in interpreting the results of intraexperimental group comparisons is required because the dissonance measures are confounded with measures of success on the task and possibly with pre-experimental S dispositions. Implications of these findings for Mertonian and Marxian models of alienation were considered.

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APPENDIX 1

The Alienation Scale

Directions for Alienation Scale

On the next page you will find 30 statements, many expressing an opinion about the test you just took or about psychological tests in general. Below each statement is a scale on which you are to indicate how much you agree or disagree with the preceding statement.

Indicate your agreement with every statement. Do not skip any. Start with Statement 1. Work straight through--do not work backwards.

(Note: Code number on statement was not included on S copy.)

Code key: digit refers to number of attitude on Table 1

first letter indicates whether referent of attitude is self or situation: A = self, B = situation

second letter indicates generality or specificity of statement: C = specific to this testing situation, D = applies more generally to testing or similar situations, E = applies to general life style

Alienation Scale

1. I think that I did at least as well on this test as most of my friends would have done. (1AC)

2. I wish that I had not signed up for this experiment. (1BC)

3. Taking tests like the one in this experiment usually makes me unhappy. (1AD)

4. I think that the experimental requirement should be dropped from the Psychology 101 course. (1BD)

5. I often feel awkward and out of place. (1AE)

6. In spite of what some people say, things are getting worse for the average man. (1BE)

7. I felt confused during this test. (2AC)

8. A major problem with this test is that the questions were unclear and ambiguous. (2BC)

9. I have trouble understanding what I am supposed to do on tests like the one I just took. (2AD)

10. Problems such as the ones in this test are highly related to the kind of abstract reasoning required of college students. (2BD)

11. I often do things without really knowing why. (2AE)

12. With everything so uncertain these days, it almost seems as though anything could happen. (2BE)

13. I do not understand why I worked the way I did on this test. (3AC)

14. I found this test interesting to take. (3BC)

15. Even if it is important for me to do well in a testing situation, I find it difficult to concentrate on it. (3AD)

16. Experiments like this one are probably important to the advancement of knowledge in psychology. (3BD)

17. Very often I feel like a stranger to myself. (3AE)

18. There is little use in talking to college teachers and administrators because often they really aren't interested in the problems of the average student. (3BE)

19. I would have liked doing this kind of problems better if I could have worked with a partner on them. (4AC)

20. I feel that my particular abilities were not reflected in this test. (4BC)

21. Other students seem to be less upset than I am about taking tests. (4AD)

22. A problem with psychological tests is that they are impersonal, they do not find out about the real person taking the test. (4BD)

23. I often feel cut off from everyone and all alone. (4AE)

24. What is lacking in the world today is the kind of friendship that lasts a lifetime. (4BE)

25. How hard I tried on this test did not seem to make any difference. (5AC)

26. I think the real purpose of this experiment is not what I was told at the onset. (5BC)

27. I think with more practice I could improve my skills in dealing with the types of problems on this test. (5AD)

28. In most psychology experiments the subjects are deceived in some way. (5BD)

29. Nowadays a person has to live pretty much for today and let tomorrow take care of itself. (5AE)

30. These days a person doesn't really know who he can count on. (5BE)